

August 29, 1956

Dear Bernie:

I can understand your anxiety not to have another Massachusettser. Best to all three of you. (I hope it's only three; Gardner Middlebrook had twins last year the ob. man never suspected!)

Your observations on DAP are most interesting. Were you planning to go into the morphological side of it? If not, I would be interested to tie it into the penicillin story here, which means I would have to ask you for a DAP-dependent and, hopefully, a bit of DAP to keep me going until I can buy some. I don't suppose you have any such mutants in K-12?— we've never looked for them, though we should reexamine some of our lysineless, if we have any. *

I've been trying to follow up the connections of protoplasts and L-forms & it is obvious to me now that Dienes' initial large bodies are protoplasts. In *Proteus*, they are evidently much tougher than in *E. coli*, and a few percent survive even at low osmolality; Dienes probably just overlooked the majority of cells which lysed away under his conditions.

Anyhow, in agar, the protoplasts do proliferate (probably by budding) and form what Dienes called the L colonies. I haven't had too much luck, however in trying to pass this L-growth in series, but am still trying some of the more exotic recipes.

Yours sincerely,

Joshua Lederberg

P.S. This just reminded me of a paper:

Toennies & Gallant 1949 Bacteriometric studies. II. The role of lysine in bacterial maintenance. JBC 177:831. There's damn little altogether new under the sun!